

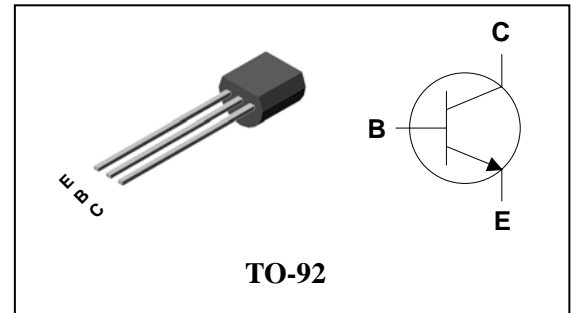
Description

- General purpose application
- Switching application

Features

- Excellent h_{FE} linearity : $h_{FE}(I_C=0.1 \text{ mA}) / h_{FE}(I_C=2 \text{ mA}) = 0.95(\text{Typ.})$
- Low noise : $NF=10\text{dB}(\text{Max.})$ at $f=1\text{KHz}$
- Complementary pair with STS9015

PIN Connection



Ordering Information

Type NO.	Marking	Package Code
STS9014	STS9014	TO-92

Absolute maximum ratings

 $(T_a=25^\circ\text{C})$

Characteristic	Symbol	Ratings	Unit
Collector-Base voltage	V_{CBO}	60	V
Collector-Emitter voltage	V_{CEO}	50	V
Emitter-Base voltage	V_{EBO}	5	V
Collector current	I_C	150	mA
Emitter current	I_E	-150	mA
Collector dissipation	P_C	625	mW
Junction temperature	T_J	150	$^\circ\text{C}$
Storage temperature	T_{stg}	-55 ~ 150	$^\circ\text{C}$

Electrical Characteristics

 $(T_a=25^\circ\text{C})$

Characteristic	Symbol	Test Condition	Min.	Typ.	Max.	Unit
Collector cut-off current	I_{CBO}	$V_{CB}=50\text{V}, I_E=0$	-	-	50	nA
Emitter cut-off current	I_{EBO}	$V_{EB}=5\text{V}, I_C=0$	-	-	100	nA
DC current gain	h_{FE}^*	$V_{CE}=5\text{V}, I_C=1\text{mA}$	100	-	1000	-
Collector-Emitter saturation voltage	$V_{CE(sat)}$	$I_C=100\text{mA}, I_B=10\text{mA}$	-	0.1	0.25	V
Transistion frequency	f_T	$V_{CE}=10\text{V}, I_C=1\text{mA}$	60	-	-	MHz
Collector output capacitance	C_{ob}	$V_{CB}=10\text{V}, I_E=0, f=1\text{MHz}$	-	2	3.5	pF
Noise figure	NF	$V_{CB}=6\text{V}, I_C=0.1\text{mA}, f=1\text{KHz}, R_g=10\text{K}\Omega$	-	-	10	dB

* : h_{FE} rank / B : 100 ~ 300, C : 200 ~ 600, D : 400 ~ 1000.

Electrical Characteristic Curves

Fig. 1 $P_C - T_a$

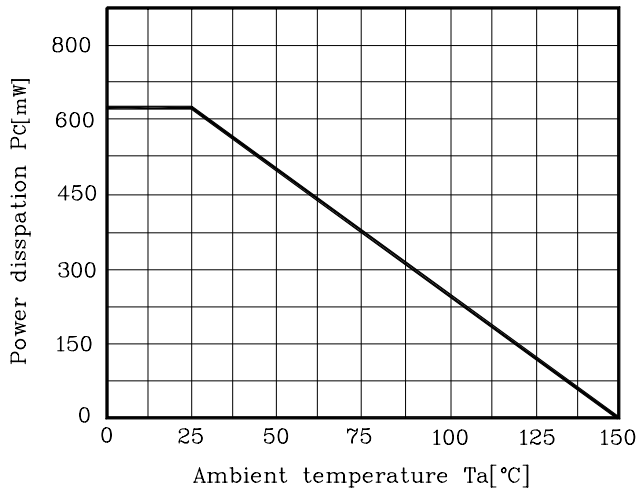


Fig. 2 $I_C - V_{BE}$

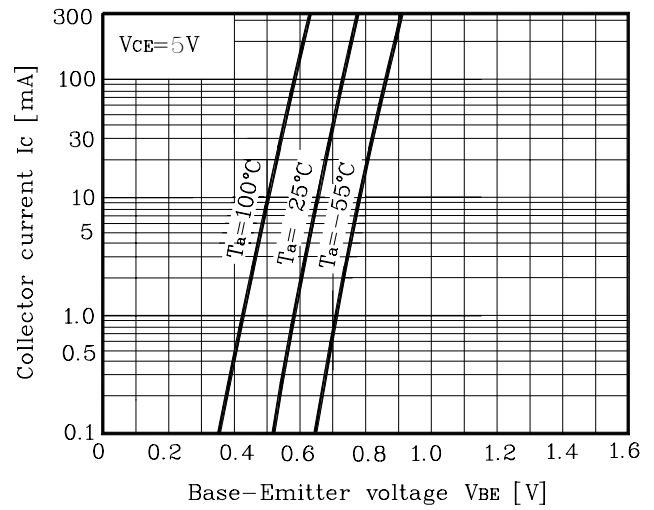


Fig. 3 $I_C - V_{CE}$

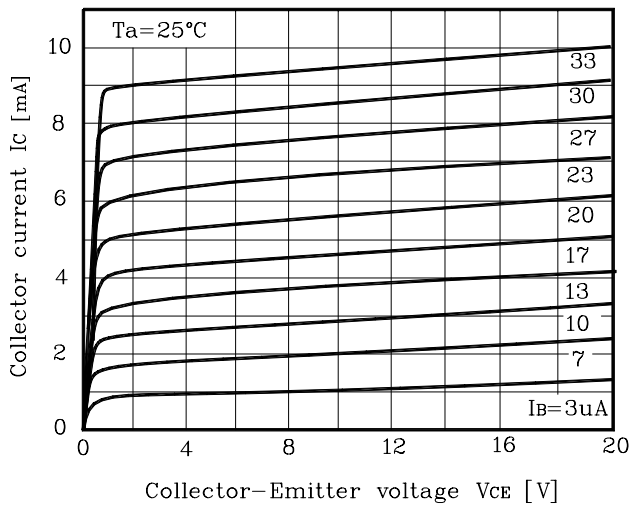


Fig. 4 $h_{FE} - I_C$

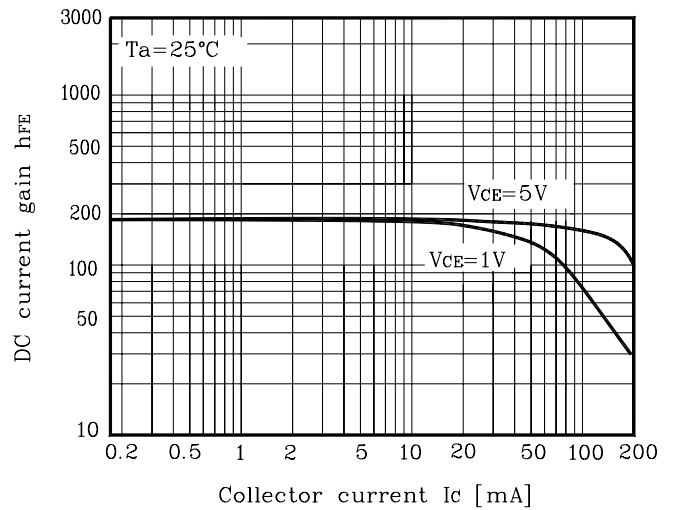
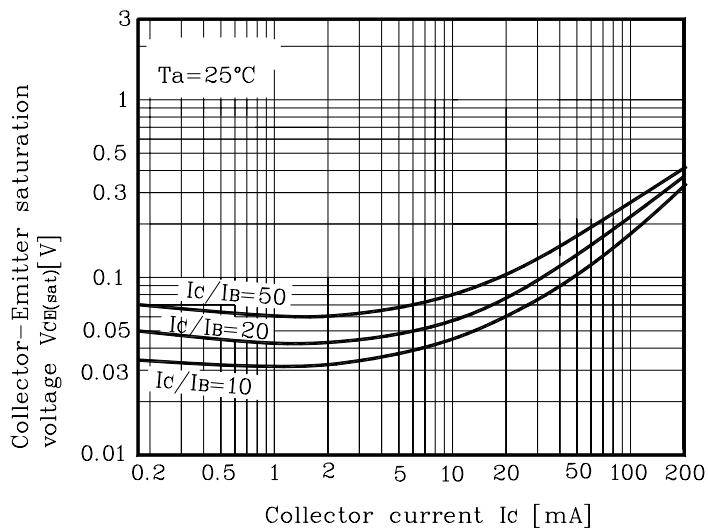
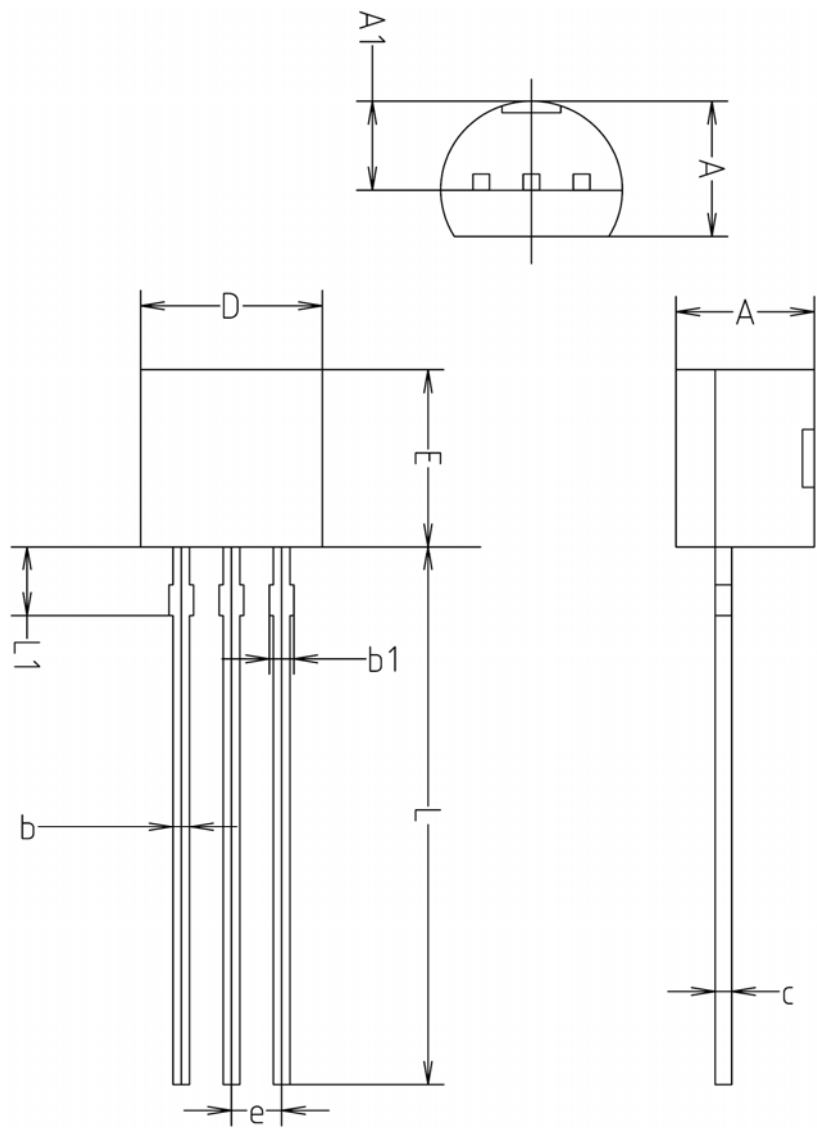


Fig. 5 $V_{CE(sat)} - I_C$



Outline Dimension



SYMBOL	MILLMETERS(mm)		
	MINIMUM	NOMINAL	MAXIMUM
A	3.40	3.50	3.66
A1	2.46	2.51	2.59
b	0.39	0.44	0.53
b1	0.39	—	0.63
c	0.35	0.42	0.47
D	4.48	4.60	4.70
E	4.48	4.60	4.70
e	1.17	1.27	1.37
L	13.70	14.00	14.77
L1	1.55	1.70	2.15

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